

RECEIVED
O I P E

NOV 13 2001

TECH CENTER 1600/2900

DATE: 09/14/2001
TIME: 11:03:39RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/590,447Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\09142001\I590447.raw

4 <110> APPLICANT: Forman, Barry M.
5 Beard, Richard L.
6 Chandraratna, Roshantha A.
8 <120> TITLE OF INVENTION: Methods for Modulating FXR Receptor
9 Activity
11 <130> FILE REFERENCE: 17302
13 <140> CURRENT APPLICATION NUMBER: 09/590,447
14 <141> CURRENT FILING DATE: 2000-06-09
16 <150> PRIOR APPLICATION NUMBER: 60/138,986
17 <151> PRIOR FILING DATE: 1999-06-11
19 <160> NUMBER OF SEQ ID NOS: 10
21 <170> SOFTWARE: FastSEQ for Windows Version 3.0
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 469
25 <212> TYPE: PRT
26 <213> ORGANISM: Rattus norvegicus
28 <400> SEQUENCE: 1
29 Met Asn Leu Ile Gly Pro Ser His Leu Gln Ala Thr Asp Glu Phe Ala
30 1 5 10 15
31 Leu Ser Glu Asn Leu Phe Gly Val Leu Thr Glu His Ala Ala Gly Pro
32 20 25 30
33 Leu Gly Gln Asn Leu Asp Leu Glu Ser Tyr Ser Pro Tyr Asn Asn Val
34 35 40 45
35 Gln Phe Pro Gln Val Gln Pro Gln Ile Ser Ser Ser Ser Tyr Tyr Ser
36 50 55 60
37 Asn Leu Gly Phe Tyr Pro Gln Gln Pro Glu Asp Trp Tyr Ser Pro Gly
38 65 70 75 80
39 Leu Tyr Glu Leu Arg Arg Met Pro Thr Glu Ser Val Tyr Gln Gly Glu
40 85 90 95
41 Thr Glu Val Ser Glu Met Pro Val Thr Lys Lys Pro Arg Met Ala Ala
42 100 105 110
43 Ser Ser Ala Gly Arg Ile Lys Gly Asp Glu Leu Cys Val Val Cys Gly
44 115 120 125
45 Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys
46 130 135 140
47 Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val Tyr Lys Cys
48 145 150 155 160
49 Lys Asn Gly Gly Asn Cys Val Met Asp Met Tyr Met Arg Arg Lys Cys
50 165 170 175
51 Gln Asp Cys Arg Leu Arg Lys Cys Arg Glu Met Gly Met Leu Ala Glu
52 180 185 190
53 Cys Leu Leu Thr Glu Ile Gln Cys Lys Ser Lys Arg Leu Arg Lys Asn
54 195 200 205
55 Val Lys Gln His Ala Asp Gln Thr Val Asn Glu Asp Ser Glu Gly Arg
56 210 215 220
57 Asp Leu Arg Gln Val Thr Ser Thr Lys Leu Cys Arg Glu Lys Thr
58 225 230 235 240

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/590,447

DATE: 09/14/2001
TIME: 11:03:39

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\09142001\I590447.raw

59 Glu Leu Thr Val Asp Gln Gln Thr Leu Leu Asp Tyr Ile Met Asp Ser
 60 245 250 255
 61 Tyr Ser Lys Gln Arg Met Pro Gln Glu Ile Thr Asn Lys Ile Leu Lys
 62 260 265 270
 63 Glu Glu Phe Ser Ala Glu Glu Asn Phe Leu Ile Leu Thr Glu Met Ala
 64 275 280 285
 65 Thr Ser His Val Gln Ile Leu Val Glu Phe Thr Lys Arg Leu Pro Gly
 66 290 295 300
 67 Phe Gln Thr Leu Asp His Glu Asp Gln Ile Ala Leu Leu Lys Gly Ser
 68 305 310 315 320
 69 Ala Val Glu Ala Met Phe Leu Arg Ser Ala Glu Ile Phe Asn Lys Lys
 70 325 330 335
 71 Leu Pro Ala Gly His Ala Asp Leu Leu Glu Glu Arg Ile Arg Lys Ser
 72 340 345 350
 73 Gly Ile Ser Asp Glu Tyr Ile Thr Pro Met Phe Ser Phe Tyr Lys Ser
 74 355 360 365
 75 Val Gly Glu Leu Lys Met Thr Gln Glu Glu Tyr Ala Leu Leu Thr Ala
 76 370 375 380
 77 Ile Val Ile Leu Ser Pro Asp Arg Gln Tyr Ile Lys Asp Arg Glu Ala
 78 385 390 395 400
 79 Val Glu Lys Leu Gln Glu Pro Leu Leu Asp Val Leu Gln Lys Leu Cys
 80 405 410 415
 81 Lys Ile Tyr Gln Pro Glu Asn Pro Gln His Phe Ala Cys Leu Leu Gly
 82 420 425 430
 83 Arg Leu Thr Glu Leu Arg Thr Phe Asn His His His Ala Glu Met Leu
 84 435 440 445
 85 Met Ser Trp Arg Val Asn Asp His Lys Phe Thr Pro Leu Leu Cys Glu
 86 450 455 460
 87 Ile Trp Asp Val Gln
 88 465
 90 <210> SEQ ID NO: 2
 91 <211> LENGTH: 484
 92 <212> TYPE: PRT
 93 <213> ORGANISM: Mus musculus
 95 <400> SEQUENCE: 2
 96 Met Val Met Gln Phe Gln Gly Leu Glu Asn Pro Ile Gln Ile Ser Leu
 97 1 5 10 15
 98 His His Ser His Arg Leu Ser Gly Phe Val Pro Asp Gly Met Ser Val
 99 20 25 30
 100 Lys Pro Ala Lys Gly Met Leu Thr Glu His Ala Ala Gly Pro Leu Gly
 101 35 40 45
 102 Gln Asn Leu Asp Leu Glu Ser Tyr Ser Pro Tyr Asn Asn Val Pro Phe
 103 50 55 60
 104 Pro Gln Val Gln Pro Gln Ile Ser Ser Ser Ser Tyr Tyr Ser Asn Leu
 105 65 70 75 80
 106 Gly Phe Tyr Pro Gln Gln Pro Glu Asp Trp Tyr Ser Pro Gly Ile Tyr
 107 85 90 95
 108 Glu Leu Arg Arg Met Pro Ala Glu Thr Gly Tyr Gln Gly Glu Thr Glu
 109 100 105 110

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/590,447

DATE: 09/14/2001
TIME: 11:03:39

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\09142001\I590447.raw

```

110 Val Ser Glu Met Pro Val Thr Lys Lys Pro Arg Met Ala Ala Ala Ser
111 115 120 125
112 Ala Gly Arg Ile Lys Gly Asp Glu Leu Cys Val Val Cys Gly Asp Arg
113 130 135 140
114 Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys Lys Gly
115 145 150 155 160
116 Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val Tyr Lys Cys Lys Asn
117 165 170 175
118 Gly Gly Asn Cys Val Met Asp Met Tyr Met Arg Arg Lys Cys Gln Glu
119 180 185 190
120 Cys Arg Leu Arg Lys Cys Arg Glu Met Gly Met Leu Ala Glu Cys Leu
121 195 200 205
122 Leu Thr Glu Ile Gln Cys Lys Ser Lys Arg Leu Arg Lys Asn Val Lys
123 210 215 220
124 Gln His Ala Asp Gln Thr Val Asn Glu Asp Asp Ser Glu Gly Arg Asp
125 225 230 235 240
126 Leu Arg Gln Val Thr Ser Thr Thr Lys Phe Cys Arg Glu Lys Thr Glu
127 245 250 255
128 Leu Thr Ala Asp Gln Gln Thr Leu Leu Asp Tyr Ile Met Asp Ser Tyr
129 260 265 270
130 Asn Lys Gln Arg Met Pro Gln Glu Ile Thr Asn Lys Ile Leu Lys Glu
131 275 280 285
132 Glu Phe Ser Ala Glu Glu Asn Phe Leu Ile Leu Thr Glu Met Ala Thr
133 290 295 300
134 Ser His Val Gln Ile Leu Val Glu Phe Thr Lys Lys Leu Pro Gly Phe
135 305 310 315 320
136 Gln Thr Leu Asp His Glu Asp Gln Ile Ala Leu Leu Lys Gly Ser Ala
137 325 330 335
138 Val Glu Ala Met Phe Leu Arg Ser Ala Glu Ile Phe Asn Lys Lys Leu
139 340 345 350
140 Pro Ala Gly His Ala Asp Leu Leu Glu Glu Arg Ile Arg Lys Ser Gly
141 355 360 365
142 Ile Ser Asp Glu Tyr Ile Thr Pro Met Phe Ser Phe Tyr Lys Ser Val
143 370 375 380
144 Gly Glu Leu Lys Met Thr Gln Glu Glu Tyr Ala Leu Leu Thr Ala Ile
145 385 390 395 400
146 Val Ile Leu Ser Pro Asp Arg Gln Tyr Ile Lys Asp Arg Glu Ala Val
147 405 410 415
148 Glu Lys Leu Gln Glu Pro Leu Leu Asp Val Leu Gln Lys Leu Cys Lys
149 420 425 430
150 Met Tyr Gln Pro Glu Asn Pro Gln His Phe Ala Cys Leu Leu Gly Arg
151 435 440 445
152 Leu Thr Glu Leu Arg Thr Phe Asn His His Ala Glu Met Leu Met
153 450 455 460
154 Ser Trp Arg Val Asn Asp His Lys Phe Thr Pro Leu Leu Cys Glu Ile
155 465 470 475 480
156 Trp Asp Val Gln
159 <210> SEQ ID NO: 3
160 <211> LENGTH: 472

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/590,447

DATE: 09/14/2001
TIME: 11:03:39

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\09142001\I590447.raw

```

161 <212> TYPE: PRT
162 <213> ORGANISM: Homo sapiens
164 <400> SEQUENCE: 3
165 Met Gly Ser Lys Met Asn Leu Ile Glu His Ser His Leu Pro Thr Thr
166      1           5           10          15
167 Asp Glu Phe Ser Phe Ser Glu Asn Leu Phe Gly Val Leu Thr Glu Gln
168      20          25          30
169 Val Ala Gly Pro Leu Gly Gln Asn Leu Glu Val Glu Pro Tyr Ser Gln
170      35          40          45
171 Tyr Ser Asn Val Gln Phe Pro Gln Val Gln Pro Gln Ile Ser Ser Ser
172      50          55          60
173 Ser Tyr Tyr Ser Asn Leu Gly Phe Tyr Pro Gln Gln Pro Glu Glu Trp
174      65          70          75          80
175 Tyr Ser Pro Gly Ile Tyr Glu Leu Arg Arg Met Pro Ala Glu Thr Leu
176      85          90          95
177 Tyr Gln Gly Glu Thr Glu Val Ala Glu Met Pro Val Thr Lys Lys Pro
178      100         105         110
179 Arg Met Gly Ala Ser Ala Gly Arg Ile Lys Gly Asp Glu Leu Cys Val
180      115         120         125
181 Val Cys Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
182      130         135         140
183 Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
184      145         150         155         160
185 Tyr Lys Cys Lys Asn Gly Gly Asn Cys Val Met Asp Met Tyr Met Arg
186      165         170         175
187 Arg Lys Cys Gln Glu Cys Arg Leu Arg Lys Cys Lys Glu Met Gly Met
188      180         185         190
189 Leu Ala Glu Cys Leu Leu Thr Glu Ile Gln Cys Lys Ser Lys Arg Leu
190      195         200         205
191 Arg Lys Asn Val Lys Gln His Ala Asp Gln Thr Val Asn Glu Asp Ser
192      210         215         220
193 Glu Gly Arg Asp Leu Arg Gln Val Thr Ser Thr Thr Lys Ser Cys Arg
194      225         230         235         240
195 Glu Lys Thr Glu Leu Thr Pro Asp Gln Gln Thr Leu Leu His Phe Ile
196      245         250         255
197 Met Asp Ser Tyr Asn Lys Gln Arg Met Pro Gln Glu Ile Thr Asn Lys
198      260         265         270
199 Ile Leu Lys Glu Glu Phe Ser Ala Glu Glu Asn Phe Leu Ile Leu Thr
200      275         280         285
201 Glu Met Ala Thr Asn His Val Gln Val Leu Val Glu Phe Thr Lys Lys
202      290         295         300
203 Leu Pro Gly Phe Gln Thr Leu Asp His Glu Asp Gln Ile Ala Leu Leu
204      305         310         315         320
205 Lys Gly Ser Ala Val Glu Ala Met Phe Leu Arg Ser Ala Glu Ile Phe
206      325         330         335
207 Asn Lys Lys Leu Pro Ser Gly His Ser Asp Leu Leu Glu Glu Arg Ile
208      340         345         350
209 Arg Asn Ser Gly Ile Ser Asp Glu Tyr Ile Thr Pro Met Phe Ser Phe
210      355         360         365

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/590,447

DATE: 09/14/2001
TIME: 11:03:39

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\09142001\I590447.raw

```

211 Tyr Lys Ser Ile Gly Glu Leu Lys Met Thr Gln Glu Glu Tyr Ala Leu
212      370          375          380
213 Leu Thr Ala Ile Val Ile Leu Ser Pro Asp Arg Gln Tyr Ile Lys Asp
214      385          390          395          400
215 Arg Glu Ala Val Glu Lys Leu Gln Glu Pro Leu Leu Asp Val Leu Gln
216      405          410          415
217 Lys Leu Cys Lys Ile His Gln Pro Glu Asn Pro Gln His Phe Ala Cys
218      420          425          430
219 Leu Leu Gly Arg Leu Thr Glu Leu Arg Thr Phe Asn His His His Ala
220      435          440          445
221 Glu Met Leu Met Ser Trp Arg Val Asn Asp His Lys Phe Thr Pro Leu
222      450          455          460
223 Leu Cys Glu Ile Trp Asp Val Gln
224      465          470
226 <210> SEQ ID NO: 4
227 <211> LENGTH: 462
228 <212> TYPE: PRT
229 <213> ORGANISM: Homo sapiens
230 <400> SEQUENCE: 4
231
232 Met Asp Thr Lys His Phe Leu Pro Leu Asp Phe Ser Thr Gln Val Asn
233      1           5           10          15
234 Ser Ser Leu Thr Ser Pro Thr Gly Arg Gly Ser Met Ala Ala Pro Ser
235      20          25          30
236 Leu His Pro Ser Leu Gly Pro Gly Ile Gly Ser Pro Gly Gln Leu His
237      35          40          45
238 Ser Pro Ile Ser Thr Leu Ser Ser Pro Ile Asn Gly Met Gly Pro Pro
239      50          55          60
240 Phe Ser Val Ile Ser Ser Pro Met Gly Pro His Ser Met Ser Val Pro
241      65          70          75          80
242 Thr Thr Pro Thr Leu Gly Phe Ser Thr Gly Ser Pro Gln Leu Ser Ser
243      85          90          95
244 Pro Met Asn Pro Val Ser Ser Ser Glu Asp Ile Lys Pro Pro Leu Gly
245      100         105         110
246 Leu Asn Gly Val Leu Lys Val Pro Ala His Pro Ser Gly Asn Met Ala
247      115         120         125
248 Ser Phe Thr Lys His Ile Cys Ala Ile Cys Gly Asp Arg Ser Ser Gly
249      130         135         140
250 Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys
251      145         150         155         160
252 Arg Thr Val Arg Lys Asp Leu Thr Tyr Thr Cys Arg Asp Asn Lys Asp
253      165         170         175
254 Cys Leu Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr
255      180         185         190
256 Gln Lys Cys Leu Ala Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu
257      195         200         205
258 Arg Gln Arg Gly Lys Asp Arg Asn Glu Asn Glu Val Glu Ser Thr Ser
259      210         215         220
260 Ser Ala Asn Glu Asp Met Pro Val Glu Arg Ile Leu Glu Ala Glu Leu
261      225         230         235         240

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/590,447

DATE: 09/14/2001

TIME: 11:03:40

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\09142001\I590447.raw